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CENTRAL FAX CENTER
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IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

1. (currently amended) A system comprising:

a first device;

a second device;

a plurality of paths ~~which connect~~ connected between the first device and the second device; and

a third device which is connected to the first device,

wherein the first device transfers data to the second device using the plurality of paths at a predetermined ratio defining a weighting of an amount of communications to be allocated among the plurality of paths so that communication loads among the plurality of paths are balanced,

wherein the third device detects congestion of the plurality of paths and notifies the first device of the congestion, and

wherein the first device changes the predetermined ratio among the paths, thereby changing the weighting of an amount of communications to be allocated among the plurality of paths, based on the basis of the notification from said third device regarding congestion on the plurality of paths to transfer the data to the second device using the plurality of paths, and

wherein said first device and the second device are storage devices.

Claim 2 (canceled).

3. (currently amended) A system comprising:

a first device;

a second device;

a plurality of paths connected between the first device and the second device, the plurality of paths being external of each of the first and second devices; and

a third device which is connected to the first device,

wherein the first device transfers data to the second device using the plurality of paths at a predetermined ratio defining a weighting of an amount of communications to be allocated among the plurality of paths so that communication loads among the plurality of paths are balanced,

wherein the third device detects congestion of the plurality of paths and notifies the first device of the congestion,

wherein the first device changes the predetermined ratio among the paths, thereby changing the weighting of an amount of communications to be allocated among the plurality of paths, based on notification from said third device regarding congestion on the plurality of paths to transfer the data to the second device using the plurality of paths according to claim 1, and

wherein the first device is a computer, and the second device is a storage device.

4. (original) A system according to claim 3, wherein each of the plurality of paths has a network device for connecting the first device and the second device,

wherein the third device is connected to the network device via a network, and

wherein the third device receives a notification of occurrence of congestion in the network device from the network device via the network.

5. (original) A system according to claim 4, wherein the notification is a notification based upon SNMP Trap.

6. (currently amended) A system according to claim 21, wherein each of the plurality of paths has a network device for connecting the first device and the second device,

wherein the third device is connected to the network device via a network, and

wherein third device receives information on a discarded packet in the network device from the network device via the network and judges congestion of the plurality of paths based on the ~~basis of the~~ information on the discarded packet.

7. (original) A system according to claim 6, wherein, in the case in which the number of discarded packets received from the network device is larger than the number of discarded packets received previously, the third device judges that congestion has occurred in the plurality of paths having the network device.

8. (currently amended) A system according to claim 1, wherein the third device has information on the predetermined ratio and a change rate of the predetermined ratio and, in the case in which congestion of the plurality of paths has been detected, computes the predetermined ratio among paths after change based on the change rate, and sends information on the predetermined ratio after change to the first device, and

wherein the first device transfers data to the second device using the plurality of paths based on the basis of the received predetermined ratio among paths after change.

9. (currently amended) A system according to claim 8, wherein the third device detects recovery from congestion of the plurality of paths and sends information on the predetermined ratio among paths to the first device, and

wherein the first device transfers data to the second device using a plurality of paths based on the basis of the received predetermined ratio among paths.

10. (currently amended) A system comprising:

a first device;

a second device; and

a plurality of paths ~~which connect~~ connected between the first device and the second device,

wherein the first device transfers data to the second device using the plurality of paths at a predetermined ratio defining a weighting of an amount of

communications to be allocated among the plurality of paths so that
communication loads among the plurality of paths are balanced,

wherein the first device detects congestion of the plurality of paths,
and

wherein the first device changes the predetermined ratio among the
paths, thereby changing the weighting of an amount of communications to be
allocated among the plurality of paths, according to the detection of the
congestion of the plurality of paths by the first device to transfer the data to
the second device using the plurality of paths, and

wherein the first device and the second device are storage devices.

Claim 11 (canceled).

12. (currently amended) A system comprising:

a first device;

a second device; and

a plurality of paths connected between the first device and the second
device, the plurality of paths being external of each of the first and second
devices.

wherein the first device transfers data to the second device using the
plurality of paths at a predetermined ratio defining a weighting of an amount of
communications to be allocated among the plurality of paths so that
communication loads among the plurality of paths are balanced,

wherein the first device detects congestion of the plurality of paths.

_____ wherein the first device changes the predetermined ratio among the paths, thereby changing the weighting of an amount of communications to be allocated among the plurality of paths, according to the detection of the congestion of the plurality of paths by the first device to transfer the data to the second device using the plurality of paths according to claim 10, and _____ wherein the first device is a computer, and the second device is a storage device.

13. (currently amended) A system according to claim 10, wherein each of the plurality of paths has a network device for connecting the first device and the second device, and

wherein the first device receives a notification of occurrence of congestion in the network device from the network device via the plurality of paths.

14. (original) A system according to claim 13, wherein the notification is a flag based upon ECN.

15. (original) A system according to claim 12, wherein, in the case in which a response is not returned from the second device for a predetermined period, the first device judges that congestion has occurred in the plurality of paths.

16. (original) A system according to claim 12, wherein, in the case in which an acknowledgement of the data sent to the second device has

been received redundantly, the first device judges that congestion has occurred in the plurality of paths.

17. (currently amended) A system according to claim 10, wherein the first device has information on the predetermined ratio and a change rate of the predetermined ratio and, in the case in which congestion of the plurality of paths has been detected, computes the predetermined ratio among paths after change based on the ~~basis of~~ the change rate, and transfers data to the second device using the plurality of paths based on the ~~basis of~~ the predetermined ratio among paths after change.

18. (original) A system according to claim 17, wherein, when a data size, which can be sent to the plurality of paths in which the congestion has occurred, has exceeded a value set in advance after the congestion occurrence, the first device judges that the plurality of paths has recovered from the congestion.

19. (currently amended) A storage system comprising:
a control unit;
a disk device which is connected to the control unit; and
an interface which is connected to a network which is connected between said interface of said storage system and another storage system,
wherein the interface is connected to ~~other devices~~ said another storage system by a plurality of paths in the network,

wherein the control unit sends data stored in the disk device as a packet to ~~the other devices~~said another storage system using the plurality of paths at a predetermined ratio among the plurality of paths defining a weighting of an amount of communications to be allocated among the plurality of paths so that communication loads among the plurality of paths are balanced.

wherein, in the case in which an acknowledgement for the packet sent to ~~the other devices~~said another storage system has not been received for a fixed period, the control unit judges that congestion has occurred in the plurality of paths, and

wherein the control unit changes the predetermined ratio among paths, thereby changing the weighting of an amount of communications to be allocated among the plurality of paths, according to the occurrence of the congestion and performs packet transfer to ~~the other devices~~said another storage system at the changed ratio among paths.

20. (currently amended)A system comprising:

a first storage device;

a second storage device;

a plurality of paths ~~which connects~~connected between the first storage device and the second storage device; and

a computer which is connected to the first storage device,

wherein a switch is included in the plurality of paths,

wherein the first storage device transfers data to the second storage device using the plurality of paths at a predetermined ratio defining a

weighting of an amount of communications to be allocated among the plurality of paths so that communication loads among the plurality of paths are balanced.

wherein the computer detects congestion of a first path among the plurality of paths based on the basis of a notification from the switch and notifies the first storage device of the predetermined ratio after change,

wherein the first storage device changes the predetermined ratio among paths to the predetermined ratio after change, thereby changing the weighting of an amount of communications to be allocated among the plurality of paths, based on the basis of the notification and transfers data to the second storage device using the plurality of paths,

wherein the computer judges recovery from the congestion of the first path and notifies the first storage device of the predetermined ratio, and

wherein the first storage device changes the predetermined ratio among paths to the predetermined ratio and transfers data to the second storage device using the plurality of paths.

21. (new) A storage system comprising:

a control unit;

a disk device which is connected to the control unit; and

an interface which is connected to a network which is connected between said interface of said storage system and of a plurality of other devices,

wherein said network is external of each of said storage system and the other devices,

wherein the interface is connected to the other devices by a plurality of paths in the network,

wherein the control unit sends data stored in the disk device as a packet to the other devices using the plurality of paths at a predetermined ratio among the plurality of paths defining a weighting of an amount of communications to be allocated among the plurality of paths so that communication loads among the plurality of paths are balanced,

wherein, in the case in which an acknowledgement for the packet sent to the other devices has not been received for a fixed period, the control unit judges that congestion has occurred in the plurality of paths, and

wherein the control unit changes the predetermined ratio among paths, thereby changing the weighting of an amount of communications to be allocated among the plurality of paths, according to the occurrence of the congestion and performs packet transfer to the other devices at the changed ratio among paths.